

Title (en)

Transmission with cold start valve

Title (de)

Hydrostatisches Getriebe mit Kaltstartventil

Title (fr)

Transmission hydrostatique avec vanne de démarrage à froid

Publication

EP 1172588 A2 20020116 (EN)

Application

EP 01115590 A 20010628

Priority

US 61421600 A 20000712

Abstract (en)

A transmission with a mechanical cold start valve (24) that dumps the pump output to the suction side of the pump (12) to prevent oil pressure build up and thereby prevent pump torque loads from being applied to the engine during engine cranking. The oil eventually forces the valve closed after oil passes through a long orifice passage (50). The length of time for this to occur is dependent on the oil temperature and the length and diameter of the orifice passage (50). In colder temperatures, more time will be required for the valve to close, thus aiding in the cold starting of the engine.
<IMAGE>

IPC 1-7

F16H 61/40

IPC 8 full level

F16H 61/40 (2010.01); **F16H 61/4043** (2010.01); **F16H 61/4165** (2010.01); **F16H 59/72** (2006.01)

CPC (source: EP US)

F16H 61/40 (2013.01 - EP US); **F16H 61/4043** (2013.01 - EP US); **F16H 61/4165** (2013.01 - EP US); **B60W 10/06** (2013.01 - EP US); **B60W 30/194** (2013.01 - EP US); **F16H 59/72** (2013.01 - EP US)

Cited by

WO2011047749A1; RU2488029C2; FR3075279A1; DE102016201696A1; EP2642165A1; US11384834B2; WO2010027321A1; WO2019121893A1; WO2021127633A1; DE102009049995A1

Designated contracting state (EPC)

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EP 1172588 A2 20020116; **EP 1172588 A3 20040506**; **EP 1172588 B1 20060621**; AT E331164 T1 20060715; AU 5431601 A 20020117; BR 0102788 A 20020226; BR 0102788 B1 20090505; CA 2342502 A1 20020112; DE 60120843 D1 20060803; DE 60120843 T2 20061116; US 6453668 B1 20020924

DOCDB simple family (application)

EP 01115590 A 20010628; AT 01115590 T 20010628; AU 5431601 A 20010711; BR 0102788 A 20010710; CA 2342502 A 20010330; DE 60120843 T 20010628; US 61421600 A 20000712